



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,991	06/22/2006	Mitsuyoshi Kuwahata	062705	7383
38834 7590 10/17/2008 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER				
TESKIN, FRED M				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
10/17/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/583,991

Applicant(s)

KUWAHATA ET AL.

Examiner

Fred M. Teskin

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

This Office action follows a reply filed on June 23, 2008. Per the reply, claims 1 and 5 have been amended and new claims 7 and 8 added. Claims 1 and 4-8 are currently pending and under examination.

The amendments made to claims 1 and 4 are deemed to obviate the rejection under 35 U.S.C. 112, second paragraph, as set forth in the prior Office action.

The terminal disclaimer filed on June 23, 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 7,354,970 has been reviewed and is accepted. The terminal disclaimer has been recorded, thereby obviating the obviousness-type double patenting rejection as set forth in the prior Office action.

The indication of claims 1 and 4-6 as being free of the prior art is withdrawn in view of the newly discovered reference of CA 2335777. Rejections based in part on the newly cited reference follow.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 02-263810 (JP '810) (all references thereto being to the corresponding English language translation, of record) in view of CA 2335777 (Kaneka).

The subject matter of the present invention is a soft vinyl chloride copolymer resin obtained by copolymerizing (A) a monomer comprising vinyl chloride or vinylidene chloride and (B) a macromonomer having a polymer comprising an ethylenically unsaturated monomer containing a double bond in a main chain, wherein the ratio of (A)/(B) by weight is 50/50 to 80/20; and wherein the macromonomer having a polymer comprising an ethylenically unsaturated monomer containing a double bond in a main chain is prepared by living radical polymerization.

A vinyl chloride copolymer obtained by copolymerizing vinyl chloride monomer and a styrene macromonomer end-terminated with a methacrylate group is disclosed by JP '810; see page 15, bridging paragraph and pages 19-20, Table 1. The Result section of Table 1 includes an Example 5 which describes a copolymer composition comprising the vinyl chloride monomer unit and the styrene macromonomer unit in proportions (wt. %) of 60 and 30 respectively - i.e., a 60/30 weight ratio, which falls within the range recited in claim 1 for the corresponding monomer and macromonomer. The same copolymer composition further comprises 5 wt. % of vinyl acetate (as Comp. (C)) as per new claims 7-8. Unfortunately, the disclosed styrene macromonomer is prepared by free radical (non-living) polymerization, as by means of lauryl peroxide as catalyst (per page 16, final paragraph) rather than by living radical polymerization, this being the sole difference between JP '810 and the present invention.

It is, however, known from Kaneka that living radical polymerization affords various practical advantages over "ordinary radical (e.g., free radical) polymerization" when preparing a vinyl polymer-based macromonomer having a terminal polymerizable carbon-carbon double bond (macromonomer (I)); e.g., high rate of polymerization, narrow molecular weight distribution and well-controlled side chain molecular weights (see Kaneka at page 1, lines 5-10; page 8, line 30 to page 10, line 15 and page 52, lines 2-6). Kaneka further teaches, as the monomer constituting the main chain of the disclosed macromonomer (I), various specific species but singles out styrene type monomers and (meth)acrylic monomer as preferred from the standpoint of physical properties of products (page 7, lines 31-34). Kaneka additionally provides for radical polymerization of the macromonomer (I) with a copolymerizable monomer (II) and indicates that all the radical-polymerizable monomers mentioned therein in reference to production of the main chain of the macromonomer (I) can be used as the monomer (II) (pages 34-35, bridging paragraph). As the monomers mentioned in Kaneka in reference to production of the macromonomer (I) main chain include vinyl chloride, vinylidene chloride and vinyl acetate (page 6, line 20 to page 7, line 30), Kaneka would have suggested to the ordinarily skilled practitioner the suitability of copolymerizing its macromonomer (I) with the applicants' monomer (A). In addition, Kaneka proposes (page 41, lines 8-15) use of a branched polymer, made by polymerizing the macromonomer (I), in adhesive applications. JP '810 similarly contemplates adhesive utility for the vinyl chloride copolymers disclosed therein (page 4, second paragraph).

Thus, at the time of applicants' invention, it would have been obvious to one of ordinary skill in the art to modify JP '810 by preparing the styrene macromonomer unit of the vinyl chloride copolymer disclosed therein by living radical polymerization in order to take advantage of the practical benefits of that preparation method as taught by Kaneka and in the expectation of obtaining a copolymer product displaying equivalent utility in adhesive applications. By so modifying JP '810 in view of the teachings of Kaneka, an ordinarily skilled practitioner would have arrived at the subject matter of the present invention.

Applicants' arguments with respect to claims 1 and 4-6 have been fully considered but are deemed moot in view of the new ground(s) of rejection.

No claims are in condition for allowance at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fred M Teskin/
Primary Examiner, Art Unit 1796

FMTeskin/10-10-08